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  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 10:48:16 ON 24 JUN 2004

=> fil .bec
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,
       ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 10:48:26 ON 24 JUN 2004
ALL COPYRIGHTS AND RESTRICTIONS APPLY.  SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> s polylactosamine
FILE 'MEDLINE'
L1          180 POLYLACTOSAMINE

FILE 'SCISEARCH'
L2          187 POLYLACTOSAMINE

FILE 'LIFESCI'
L3           40 POLYLACTOSAMINE

FILE 'BIOTECHDS'
L4            4 POLYLACTOSAMINE

FILE 'BIOSIS'
L5          183 POLYLACTOSAMINE

FILE 'EMBASE'
L6          156 POLYLACTOSAMINE

FILE 'HCAPLUS'
L7          202 POLYLACTOSAMINE

FILE 'NTIS'
L8            1 POLYLACTOSAMINE

FILE 'ESBIOBASE'
L9           94 POLYLACTOSAMINE

FILE 'BIOTECHNO'
L10         113 POLYLACTOSAMINE

FILE 'WPIDS'
L11          12 POLYLACTOSAMINE

TOTAL FOR ALL FILES
L12        1172 POLYLACTOSAMINE

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FILE 'MEDLINE'
        456389 SYNTHES?
L13          11 L1 (5A)SYNTHES?

FILE 'SCISEARCH'
        795968 SYNTHES?
L14          12 L2 (5A)SYNTHES?

FILE 'LIFESCI'
        132554 SYNTHES?
L15           1 L3 (5A)SYNTHES?
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FILE 'BIOTECHDS'
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L16          0 L4 (5A)SYNTHES?

FILE 'BIOSIS'
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L17         14 L5 (5A)SYNTHES?

FILE 'EMBASE'
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L18         11 L6 (5A)SYNTHES?

FILE 'HCAPLUS'
       1375465 SYNTHES?
L19         20 L7 (5A)SYNTHES?

FILE 'NTIS'
         41598 SYNTHES?
L20          0 L8 (5A)SYNTHES?

FILE 'ESBIOBASE'
        166927 SYNTHES?
L21          8 L9 (5A)SYNTHES?

FILE 'BIOTECHNO'
        170699 SYNTHES?
L22          8 L10(5A)SYNTHES?

FILE 'WPIDS'
        116334 SYNTHES?
L23          1 L11(5A)SYNTHES?

TOTAL FOR ALL FILES
L24         86 L12(5A) SYNTHES?

=> dup rem l24
PROCESSING COMPLETED FOR L24
L25          23 DUP REM L24 (63 DUPLICATES REMOVED)

=> s l25 not 2000-2004/py
FILE 'MEDLINE'
L26          11 S L25
       2346049 2000-2004/PY
L27           9 L26 NOT 2000-2004/PY

FILE 'SCISEARCH'
L28           4 S L25
       4438306 2000-2004/PY
L29           3 L28 NOT 2000-2004/PY

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L30           0 S L25
        450968 2000-2004/PY
L31           0 L30 NOT 2000-2004/PY

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L32           0 S L25
         88496 2000-2004/PY
L33           0 L32 NOT 2000-2004/PY

FILE 'BIOSIS'
L34           2 S L25
       2397139 2000-2004/PY
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L35           1 L34 NOT 2000-2004/PY

FILE 'EMBASE'
L36           0 S L25
       2030599 2000-2004/PY
L37           0 L36 NOT 2000-2004/PY

FILE 'HCAPLUS'
L38           6 S L25
       4386236 2000-2004/PY
L39           2 L38 NOT 2000-2004/PY

FILE 'NTIS'
L40           0 S L25
         71154 2000-2004/PY
L41           0 L40 NOT 2000-2004/PY

FILE 'ESBIOBASE'
L42           0 S L25
       1286308 2000-2004/PY
L43           0 L42 NOT 2000-2004/PY

FILE 'BIOTECHNO'
L44           0 S L25
        491187 2000-2004/PY
L45           0 L44 NOT 2000-2004/PY

FILE 'WPIDS'
L46           0 S L25
       3964624 2000-2004/PY
L47           0 L46 NOT 2000-2004/PY

TOTAL FOR ALL FILES
L48          15 L25 NOT 2000-2004/PY

=> d tot

L48  ANSWER 1 OF 15      MEDLINE on STN
TI   Structural and functional consequences of an N-glycosylation mutation
     (HEMPAS) affecting human erythrocyte membrane glycoproteins.
SO   Biochemistry and cell biology = Biochimie et biologie cellulaire, (1998)
     76 (5) 823-35.
     Journal code: 8606068. ISSN: 0829-8211.
AU   Kameh H; Landolt-Marticorena C; Charuk J H; Schachter H; Reithmeier R A
AN   1999280184      MEDLINE

L48  ANSWER 2 OF 15      MEDLINE on STN
TI   Purification and characterization of UDP-GlcNAc:Galbeta1-4GlcNAcbeta1-
     3*Galbeta1-4Glc(NAc)-R(GlcNAc to *Gal) beta1,6N-
     acetylglucosaminyltransferase from hog small intestine.
SO   Journal of biological chemistry, (1998 Oct 16) 273 (42) 27625-32.
     Journal code: 2985121R. ISSN: 0021-9258.
AU   Sakamoto Y; Taguchi T; Tano Y; Ogawa T; Leppanen A; Kinnunen M; Aitio O;
     Parmanne P; Renkonen O; Taniguchi N
AN   1998438542      MEDLINE

L48  ANSWER 3 OF 15      MEDLINE on STN
TI   Biosynthesis of branched polylactosaminoglycans. Embryonal carcinoma cells
     express midchain beta1,6-N-acetylglucosaminyltransferase activity that
     generates branches to preformed linear backbones.
SO   Journal of biological chemistry, (1998 Jul 10) 273 (28) 17399-405.
     Journal code: 2985121R. ISSN: 0021-9258.
AU   Leppanen A; Zhu Y; Maaheimo H; Helin J; Lehtonen E; Renkonen O
AN   1998316297      MEDLINE
```

L48 ANSWER 4 OF 15 MEDLINE on STN
TI Synthesis of a new nanomolar saccharide inhibitor of lymphocyte adhesion: different polylactosamine backbones present multiple sialyl Lewis x determinants to L-selectin in high-affinity mode.
SO Glycobiology, (1997 Jun) 7 (4) 453-61.
Journal code: 9104124. ISSN: 0959-6658.
AU Renkonen O; Toppila S; Penttila L; Salminen H; Helin J; Maaheimo H; Costello C E; Turunen J P; Renkonen R
AN 97328287 MEDLINE

L48 ANSWER 5 OF 15 MEDLINE on STN
TI Biosynthesis in vitro of neolactotetraosylceramide by a galactosyltransferase from mouse T-lymphoma: purification and kinetic studies; **synthesis** of neolacto and **polylactosamine** core.
SO Glycoconjugate journal, (1996 Jun) 13 (3) 423-32.
Journal code: 8603310. ISSN: 0282-0080.
AU Basu M; Weng S A; Tang H; Khan F; Rossi F; Basu S
AN 96375684 MEDLINE

L48 ANSWER 6 OF 15 MEDLINE on STN
TI Hydrophobic glycosides of N-acetylglucosamine can act as primers for **polylactosamine synthesis** and can affect glycolipid **synthesis** in vivo.
SO Biochemical journal, (1995 May 1) 307 (Pt 3) 791-7.
Journal code: 2984726R. ISSN: 0264-6021.
AU Neville D C; Field R A; Ferguson M A
AN 95260307 MEDLINE

L48 ANSWER 7 OF 15 MEDLINE on STN
TI Biosynthetic mechanisms for the addition of polylactosamine to chondrocyte fibromodulin.
SO Journal of biological chemistry, (1993 Dec 15) 268 (35) 26634-44.
Journal code: 2985121R. ISSN: 0021-9258.
AU Plaas A H; Wong-Palms S
AN 94075357 MEDLINE

L48 ANSWER 8 OF 15 MEDLINE on STN
TI Increased UDP-GlcNAc:Gal beta 1-3GaLNAc-R (GlcNAc to GaLNAc) beta-1, 6-N-acetylglucosaminyltransferase activity in metastatic murine tumor cell lines. Control of **polylactosamine synthesis.**
SO Journal of biological chemistry, (1991 Jan 25) 266 (3) 1772-82.
Journal code: 2985121R. ISSN: 0021-9258.
AU Yousefi S; Higgins E; Daoling Z; Pollex-Kruger A; Hindsgaul O; Dennis J W
AN 91107680 MEDLINE

L48 ANSWER 9 OF 15 MEDLINE on STN
TI Defective glycosylation of erythrocyte membrane glycoconjugates in a variant of congenital dyserythropoietic anemia type II: association of low level of membrane-bound form of galactosyltransferase.
SO Blood, (1989 Apr) 73 (5) 1331-9.
Journal code: 7603509. ISSN: 0006-4971.
AU Fukuda M N; Masri K A; Dell A; Thonar E J; Klier G; Lowenthal R M
AN 89194384 MEDLINE

L48 ANSWER 10 OF 15 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
TI Solid phase **synthesis** of **polylactosamine** oligosaccharide
SO BIOORGANIC & MEDICINAL CHEMISTRY LETTERS, (3 DEC 1996) Vol. 6, No. 23, pp. 2841-2846.
Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD, ENGLAND OX5 1GB.
ISSN: 0960-894X.

AU Shimizu H; Ito Y (Reprint); Kanie O; Ogawa T
AN 97:5726 SCISEARCH

L48 ANSWER 11 OF 15 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
TI **SYNTHESIS** OF **POLYLACTOSAMINE** OLIGOMERS BY DISACCHARIDE POLYMERIZATION
SO JOURNAL OF CARBOHYDRATE CHEMISTRY, (1991) Vol. 10, No. 5, pp. 927-933.
AU SRIVASTAVA G; HINDSGAUL O (Reprint)
AN 91:617407 SCISEARCH

L48 ANSWER 12 OF 15 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
TI INCREASED UDP-GLCNAC-GAL-BETA-1-3GALNAC-R (GLCNAC TO GALNAC)BETA-1,6-N-ACETYLGLUCOSAMINYLTRANSFERASE ACTIVITY IN METASTATIC MURINE TUMOR-CELL LINES - CONTROL OF **POLYLACTOSAMINE SYNTHESIS**
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1991) Vol. 266, No. 3, pp. 1772-1782.
AU YOUSEFI S (Reprint); HIGGINS E; ZHUANG D L; POLLEXKRUGER A; HINDSGAUL O; DENNIS J W
AN 91:59019 SCISEARCH

L48 ANSWER 13 OF 15 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI **SYNTHESIS** OF **POLYLACTOSAMINE** OLIGOMERS BY DISACCHARIDE POLYMERIZATION.
SO Journal of Carbohydrate Chemistry, (1991) Vol. 10, No. 5, pp. 927-934.
CODEN: JCACDM. ISSN: 0732-8303.
AU SRIVASTAVA G [Reprint author]; HINDSGAUL O
AN 1992:34712 BIOSIS

L48 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
TI Polymer support synthesis of oligosaccharide
SO RIKEN Review (1997), 15, 41-42
CODEN: RIREE6; ISSN: 0919-3405
AU Ito, Yukishige
AN 1997:701023 HCAPLUS
DN 127:319145

L48 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis of an octasaccharide fragment of the polylactosamine series by a blockwise approach
SO Tetrahedron Letters (1987), 28(29), 3345-8
CODEN: TELEAY; ISSN: 0040-4039
AU Alais, Jocelyne; Veyrieres, Alain
AN 1988:204947 HCAPLUS
DN 108:204947

=> d ab 2,4,5,10,11,14,15

L48 ANSWER 2 OF 15 MEDLINE on STN
AB A beta1,6N-acetylglucosaminyltransferase (beta1-6GnT) responsible for the formation of the beta1,6-branched poly-N-acetyllactosamine structure has been purified 210,000-fold in 2.4% yield from a homogenate of hog small intestine by successive column chromatographies involving CM-Sepharose FF, Ni2+-chelating Sepharose FF, and UDP-hexanolamine-agarose, using an assay wherein pyridylaminated lacto-N-neotetraose (Galbeta1-4GlcNAcbeta1-3Galbeta1-4Glc-PA) was used as an acceptor substrate, and the reaction product was Galbeta1-4GlcNAcbeta1-3(GlcNAcbeta1-6)Galbeta1-4 Glc-PA. The apparent molecular weight of the purified enzyme was 76,000 under nonreducing conditions. The enzyme has a pH optimum at 7.0 and has no requirement for any divalent metal ions. The Km values for pyridylaminated lacto-N-neotetraose and UDP-GlcNAc were 0.96 and 2. 59 mM, respectively. For its activity, this enzyme was shown to have an absolute requirement of at least a complete LacNAc (LacNAc = Galbeta1-4GlcNAc) residue bound to position 3 of the acceptor Gal residues, i.e. it is capable of acting only on the Gal residues of internal LacNAc units. The

data strongly suggest that this enzyme could be involved in generating branches to central positions of preformed as well as growing **polylactosamine** chains, but not in **synthesizing** the distal branches to growing **polylactosamine** chains.

L48 ANSWER 4 OF 15 MEDLINE on STN

AB Lymphocyte infiltration is a hallmark of acute rejections in solid organ transplants, such as cardiac allograft. We have previously shown that lymphocyte extravasation to cardiac grafts undergoing rejection is largely due to interactions between lymphocyte L-selectin and its sialyl Lewis x (sLex) decorated ligands. Our previous work demonstrated further that an enzymatically synthetized tetravalent sLex glycan of a branched polylactosamine backbone is a highly efficient inhibitor of L-selectin-dependent lymphocyte adhesion to graft endothelium. To improve the availability of multivalent sLex glycans for anti-inflammatory indications, we now report enzymatic synthesis of another tetravalent sLex glycan that can be potentially produced on a large scale, and show that even the new saccharide is a nanomolar inhibitor of L-selectin-dependent lymphocyte adhesion. The novel antagonist is sLex beta 1-3' (sLex beta 1-6') LacNAc beta 1-3' (sLex beta 1-6') LacNAc beta 1-3' (sLex beta 1-6') LacNAc (8) (where LacNAc is the disaccharide Gal beta 1-4GlcNac and sLex is the tetrasaccharide Neu5Ac alpha 2-3Gal beta 1-4 (Fuc alpha 1-3) GlcNAc). Its five-step **synthesis** was started from the octameric **polylactosamine** LacNAc beta 1-3' (GlcNAc beta 1-6') LacNAc beta 1-3' (GlcNAc beta 1-6') LacNAc (3), which in turn is accessible in one step from the hexasaccharide LacNAc beta 1-3'LacNAc beta 1-3'LacNAc. Importantly, the hexasaccharide primer has been synthesized chemically (Alais and Veyrieres, Tetrahedron Lett., 24, 5223, 1983). Hence, our data outline a route to glycan 8, consisting of a combination of chemical and enzymatic methods of oligosaccharide synthesis. In addition, our data show that polylactosamine backbones are able to present multiple sialyl Lewis x determinants to L-selectin in high-affinity mode, without a requirement for uniqueness in the backbone structure.

L48 ANSWER 5 OF 15 MEDLINE on STN

AB The galactosyltransferase, GalT-4, which catalyses the biosynthesis in vitro of neolactotetraosylceramide, nLcOse4Cer (Gal beta 1-4GlcNAc beta 1-3Gal beta 1-4Glc-Cer) from lactotriaosylceramide, LcOse3Cer (Glc NAc beta 1-3Gal beta 1-4Glc-Cer), and UDP-galactose has been purified 107 500-fold from a mineral oil induced mouse T-lyphoma P-1798, using affinity columns. The purified enzyme is partially stabilized in the presence of phospholipid liposomes. Two closely migrating protein bands of apparent molecular weights 56 kDa and 63 kDa were observed after sodium dodecyl sulfate polyacrylamide gel electrophoresis of highly purified mouse GalT-4. These two protein bands, when subjected to limited proteolysis, resulted in three peptides with identical mobilities indicating amino acid sequence identity between the proteins. Both protein bands from P-1798 gave a positive immunostain when tested with polyclonal antibody against bovine lactose synthetase (UDP-Gal:Glc beta 4-galactosyltransferase) following Western blot analysis on nitrocellulose paper. The enzyme has a pH optimum between 6.5 and 7.0 and like all other galactosyltransferases, GalT-4 has absolute requirements for divalent cation (Mn2+). The K(m) values for the substrate LcOse3Cer and donor UDP-galactose are 110 and 250 microM, respectively. Substrate competition studies with LcOse3Cer and either asialo-agalacto-alpha 1-acid glycoprotein or N-acetylglucosamine revealed that these reactions might be catalysed by the same protein. The only other glycolipid which showed acceptor activity toward the purified GalT-4 was iLcOse5Cer (GlcNAc beta 1-1-3Gal beta 1-4Lc3), the precursor for polylactosamine antigens. However, competition studies with these two active substrates using the most purified enzyme fraction, revealed that these two reactions might be catalysed by two different proteins since the experimental values were closer to the theoretical values calculated for two enzymes. Interestingly however, it seems that the GalT-4 from P-1798 has an absolute requirement for an N-acetylglucosamine residue in the

substrate since the lyso-derivative (GlcNH2 beta 1-3Gal beta 1-4Glc-sphingosine) of the acceptor glycolipid LcOse3Cer is completely inactive as substrate while the K(m) and Vmax of the reacetylated substrate (GlcNAc beta 1-3Gal beta 1-4Glc-acetylsphingosine) was comparable with LcOse3Cer. Autoradiography of the radioactive product formed by purified P-1798 GalT-4 confirmed the presence of nLcOse4Cer, as the product cochromatographed with authentic glycolipid. The monoclonal antibody IB-2, specific for nLcOse4Cer, also produced a positive immunostained band on TLC as well as giving a positive ELISA when tested with radioactive product obtained using a highly purified enzyme from mouse P-1798 T-lymphoma.

L48 ANSWER 10 OF 15 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AB Solid phase **synthesis** of **polylactosamine** oligosaccharide was performed starting from resin supported lactose 1a,b. Glycosylation of 1a with the lactosamine unit 6 followed by delevulinoylation afforded tetrasaccharides, which were further converted into hexa- and octasaccharide and was cleaved from resin by TrBF(4) in CH2Cl2 to afford 7. Ester linked Ib was converted in a similar manner into hexasaccharide that was liberated under basic conditions to give 8. Subsequent deprotection into 9 was performed in three steps. Copyright (C) 1996 Elsevier Science Ltd

L48 ANSWER 11 OF 15 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN

L48 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AB A review with 8 refs. on polymer support strategies useful for rapid assembly of glycoconjugate related glycans. Two approaches, solid-phase **synthesis** of **polylactosamine** type oligosaccharide and orthogonal glycosylation are considered. Furthermore, a conceptually novel use of polymer support for stereoselective synthesis of β-manno glycoside was developed.

L48 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2004 ACS on STN
AB An octasaccharide, β-(1-3) linked tetramer of N-acetyllactosamine, was prepared by block synthesis. Intermediate di- and tetrasaccharides were converted either into trichloroacetimidates acting as glycosyl donors or into vicinal diols acting as glycosyl acceptors.

=> d ab 6,7

L48 ANSWER 6 OF 15 MEDLINE on STN
AB Several hydrophobic glycosides of N-acetylglucosamine (GlcNAc) served as primers for **polylactosamine synthesis** when added to Chinese hamster ovary (CHO) cells. The modified glycosides, containing one to six lactosamine repeats in linear array, were sialylated and secreted into the culture medium. The relative efficiencies of the glycosides to serve as primers were dependent on the nature of the aglycone and on the anomeric configuration of the GlcNAc residue. The same compounds were tested for their effects on glycolipid synthesis in CHO cells. All of the beta-glycosides significantly inhibited the synthesis of the lactoseries glycolipid GM3 whereas the alpha-glycoside was inactive. The compound GlcNAc alpha 1-O-benzyl- was the most efficient primer of **polylactosamine synthesis** and had no effect on glycolipid synthesis. This compound may have potential for the assay of the polylactosamine synthetic capacity of living cells.

L48 ANSWER 7 OF 15 MEDLINE on STN
AB The cartilage matrix glycoprotein fibromodulin contains four N-linked glycosylation sites which act as acceptors for the addition of sulfated polylactosamine (keratan sulfate). In the present study we examined the biosynthetic processing of these N-linked oligosaccharides for subsequent addition of polylactosamine. Chondrocytes were treated with

castanospermine, 1-(+)deoxymannojirimycin, and swainsonine, radiolabeled with [3,4,5-3H]leucine, [2-3H]mannose, or [6-3H]glucosamine, and newly synthesized fibromodulin was immunoprecipitated for analysis. Castanospermine and 1-(+)deoxymannojirimycin inhibited polylactosamine addition, whereas swainsonine was not effective. This indicated that the linkage regions must be processed to GlcNAc(Man)5(GlcNAc)2Asn but do not require further modification to GlcNAc(Man)3(GlcNAc)2Asn. In both control and swainsonine-treated cells one or two N-linked oligosaccharides per molecule were modified with polylactosamine containing 4-6 repeating disaccharide units. Moreover, a single short chain was added either to the C-3 or the C-6 branch in control cultures, whereas only the C-3 branch was substituted in the presence of swainsonine. Analysis of endo-beta-galactosidase and keratanase II digestion products of the **polylactosamine** chains **synthesized** in both culture conditions showed that only about 25% of the hexosamine residues and less than 5% of the adjacent galactose residues were substituted with sulfate. These findings are discussed in relation to the regulation of fibromodulin glycosylation and the likely influence of polylactosamine structure on the extracellular interactions and turnover of fibromodulin.

```
=> s l12 and enzym?(5a)synthes?
FILE 'MEDLINE'
       1051998 ENZYM?
        456389 SYNTHES?
         18107 ENZYM?(5A)SYNTHES?
L49         10 L1 AND ENZYM?(5A)SYNTHES?

FILE 'SCISEARCH'
        491325 ENZYM?
        795968 SYNTHES?
         16924 ENZYM?(5A)SYNTHES?
L50          9 L2 AND ENZYM?(5A)SYNTHES?

FILE 'LIFESCI'
        212986 ENZYM?
        132554 SYNTHES?
          7078 ENZYM?(5A)SYNTHES?
L51          1 L3 AND ENZYM?(5A)SYNTHES?

FILE 'BIOTECHDS'
        117984 ENZYM?
         28988 SYNTHES?
          3546 ENZYM?(5A)SYNTHES?
L52          2 L4 AND ENZYM?(5A)SYNTHES?

FILE 'BIOSIS'
       1720383 ENZYM?
        612334 SYNTHES?
         27039 ENZYM?(5A)SYNTHES?
L53         10 L5 AND ENZYM?(5A)SYNTHES?

FILE 'EMBASE'
        776333 ENZYM?
        556411 SYNTHES?
         25771 ENZYM?(5A)SYNTHES?
L54         10 L6 AND ENZYM?(5A)SYNTHES?

FILE 'HCAPLUS'
       1010005 ENZYM?
       1375465 SYNTHES?
         38181 ENZYM?(5A)SYNTHES?
L55         11 L7 AND ENZYM?(5A)SYNTHES?
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FILE 'NTIS'
         12666 ENZYM?
         41598 SYNTHES?
           376 ENZYM?(5A)SYNTHES?
L56          0 L8 AND ENZYM?(5A)SYNTHES?

FILE 'ESBIOBASE'
        232891 ENZYM?
        166927 SYNTHES?
          9507 ENZYM?(5A)SYNTHES?
L57          8 L9 AND ENZYM?(5A)SYNTHES?

FILE 'BIOTECHNO'
        366038 ENZYM?
        170699 SYNTHES?
         13572 ENZYM?(5A)SYNTHES?
L58          6 L10 AND ENZYM?(5A)SYNTHES?

FILE 'WPIDS'
         80314 ENZYM?
        116334 SYNTHES?
          1548 ENZYM?(5A)SYNTHES?
L59          2 L11 AND ENZYM?(5A)SYNTHES?

TOTAL FOR ALL FILES
L60         69 L12 AND ENZYM?(5A) SYNTHES?

=> s l60 not 2000-2004/py
FILE 'MEDLINE'
       2346049 2000-2004/PY
L61          8 L49 NOT 2000-2004/PY

FILE 'SCISEARCH'
       4438306 2000-2004/PY
L62          8 L50 NOT 2000-2004/PY

FILE 'LIFESCI'
        450968 2000-2004/PY
L63          1 L51 NOT 2000-2004/PY

FILE 'BIOTECHDS'
         88496 2000-2004/PY
L64          2 L52 NOT 2000-2004/PY

FILE 'BIOSIS'
       2397139 2000-2004/PY
L65          7 L53 NOT 2000-2004/PY

FILE 'EMBASE'
       2030599 2000-2004/PY
L66          8 L54 NOT 2000-2004/PY

FILE 'HCAPLUS'
       4386236 2000-2004/PY
L67          8 L55 NOT 2000-2004/PY

FILE 'NTIS'
         71154 2000-2004/PY
L68          0 L56 NOT 2000-2004/PY

FILE 'ESBIOBASE'
       1286308 2000-2004/PY
L69          7 L57 NOT 2000-2004/PY
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FILE 'BIOTECHNO'
491187 2000-2004/PY
L70 5 L58 NOT 2000-2004/PY

FILE 'WPIDS'
3964624 2000-2004/PY
L71 0 L59 NOT 2000-2004/PY

TOTAL FOR ALL FILES
L72 54 L60 NOT 2000-2004/PY

=> dup rem l72
PROCESSING COMPLETED FOR L72
L73 11 DUP REM L72 (43 DUPLICATES REMOVED)

=> d tot

L73 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
TI Regulation of I-branched poly-N-acetyllactosamine **synthesis.** Concerted actions by i-extension **enzyme**, i-branching enzyme, and β1,4-galactosyltransferase I
SO Journal of Biological Chemistry (1999), 274(14), 9296-9304
CODEN: JBCHA3; ISSN: 0021-9258
AU Ujita, Minoru; McAuliffe, Joseph; Suzuki, Misa; Hindsgaul, Ole; Clausen, Henrik; Fukuda, Michiko N.; Fukuda, Minoru
AN 1999:241646 HCAPLUS
DN 131:41434

L73 ANSWER 2 OF 11 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
TI **Enzymatic synthesis** of natural and C-13 enriched linear poly-N-acetyllactosamines as ligands for galectin-1
SO GLYCOBIOLOGY, (APR 1999) Vol. 9, No. 4, pp. 353-364.
Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND.
ISSN: 0959-6658.
AU DiVirgilio S; Glushka J; Moremen K; Pierce M (Reprint)
AN 1999:284076 SCISEARCH

L73 ANSWER 3 OF 11 MEDLINE on STN DUPLICATE 1
TI **Enzymatic synthesis** of alpha3'sialylated and multiply alpha3fucosylated biantennary polylactosamines. A bivalent [sialyl diLex]-saccharide inhibited lymphocyte-endothelium adhesion organ-selectively.
SO European journal of biochemistry / FEBS, (1999 Apr) 261 (1) 208-15.
Journal code: 0107600. ISSN: 0014-2956.
AU Toppila S; Renkonen R; Penttila L; Natunen J; Salminen H; Helin J; Maaheimo H; Renkonen O
AN 1999203519 MEDLINE

L73 ANSWER 4 OF 11 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN DUPLICATE 2
TI Purification and characterization of UDP-GlcNAc:Galβ1-4GlcNAcβ1-3Galβ1-4Glc(NAc)-R(GlcNAc to Gal) β1,6N-acetylglucosaminyltransferase from hog small intestine.
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AN 1998370614 EMBASE

L73 ANSWER 5 OF 11 MEDLINE on STN DUPLICATE 3
TI Acceptor specificity of the human leukocyte alpha3 fucosyltransferase: role of FucT-VII in the generation of selectin ligands.
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L73 ANSWER 6 OF 11 MEDLINE on STN DUPLICATE 4
TI **Enzymatic synthesis** of site-specifically (alpha 1-3)-fucosylated polylactosamines containing either a sialyl Lewis (x), a VIM-2, or a sialylated and internally difucosylated sequence.
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AN 1998312072 MEDLINE

L73 ANSWER 7 OF 11 MEDLINE on STN DUPLICATE 5
TI Synthesis of a new nanomolar saccharide inhibitor of lymphocyte adhesion: different **polylactosamine** backbones present multiple sialyl Lewis x determinants to L-selectin in high-affinity mode.
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L73 ANSWER 8 OF 11 MEDLINE on STN DUPLICATE 6
TI Improved **enzymatic synthesis** of a highly potent oligosaccharide antagonist of L-selectin.
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Journal code: 0155157. ISSN: 0014-5793.
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L73 ANSWER 9 OF 11 MEDLINE on STN DUPLICATE 7
TI Synthesis of a tetravalent sialyl Lewis x glycan, a high-affinity inhibitor of L-selectin-mediated lymphocyte binding to endothelium.
SO Glycobiology, (1996 Jan) 6 (1) 65-71.
Journal code: 9104124. ISSN: 0959-6658.
AU Seppo A; Turunen J P; Penttila L; Keane A; Renkonen O; Renkonen R
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L73 ANSWER 10 OF 11 MEDLINE on STN DUPLICATE 8
TI Synthesis of a divalent sialyl Lewis x O-glycan, a potent inhibitor of lymphocyte-endothelium adhesion. Evidence that multivalency enhances the saccharide binding to L-selectin.
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L73 ANSWER 11 OF 11 MEDLINE on STN DUPLICATE 9
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AN 91017522 MEDLINE

=> d ab 2

L73 ANSWER 2 OF 11 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN

AB As part of a study of protein-carbohydrate interactions, linear N-acetyl-polyllactosamines [Gal beta 1,4GlcNAc beta 1,3](n) were synthesized at the 10-100 mu mol scale using enzymatic methods. The methods described also provided specifically [1-C-13]galactose-labeled tetra- and hexasaccharides ([1-C-13]Gal beta 1,4GlcNAc beta 1,3Gal beta 1,4Glc and Gal beta 1,4GlcNAc beta 1,3[1-C-13]Gal beta 1,4GlcNAc beta 1,3Gal beta 1,4Glc) suitable for NMR studies. Two series of oligosaccharides were produced, with either glucose or N-acetylglucosamine at the reducing end. In both cases, large amounts of starting primer were available from human milk oligosaccharides (trisaccharide primer GlcNAc beta 1,3Gal beta 1,4Glc) or via transglycosylation from N-acetyllactosamine, Partially purified and immobilized glycosyltransferases, such as bovine milk beta 1,4 galactosyltransferase and human serum beta 1,3 N- acetylglucosaminyl-transferase, were used for the synthesis. All the oligosaccharide products were characterized by H-1 and C-13 NMR spectroscopy and MALDI-TOF mass spectrometry, The target molecules were then used to study their interactions with recombinant galectin-1, and initial H-1 NMR spectroscopic results are presented to illustrate this approach. These results indicate that, for oligomers containing up to eight sugars, the principal interaction of the binding site of galectin-1 is with the terminal N-acetyllactosamine residues.

=> d ab 8

L73 ANSWER 8 OF 11 MEDLINE on STN DUPLICATE 6
AB The **polylactosamine** sLex beta1-3'(sLex beta1-6')LacNAc beta1-3'(sLex beta1-6')LacNAc beta1-3'(sLex beta1-6')LacNAc (7) (where sLex is Neu5Ac alpha2-3Gal beta1-4(Fuc alpha1-3)GlcNAc and LacNAc is Gal beta1-4GlcNAc) is a nanomolar L-selectin antagonist and therefore a potential anti-inflammatory agent (Renkonen et al. (1997) Glycobiology, 7, 453). Here we describe an improved synthesis of 7. The octasaccharide LacNAc beta1-3'LacNAc beta1-3'LacNAc beta1-3'LacNAc (4) was converted into the triply branched undecasaccharide LacNAc beta1-3'(GlcNAc beta1-6')LacNAc beta1-3'(GlcNAc beta1-6')LacNAc beta1-3'(GlcNAc beta1-6')LacNAc (5) by incubation with UDP-GlcNAc and the midchain beta1,6-GlcNAc transferase activity of rat serum. Glycan 5 was enzymatically beta1,4-galactosylated to LacNAc beta1-3'(LacNAc beta1-6')LacNAc beta1-3'(LacNAc beta1-6')LacNAc beta1-3'(LacNAc beta1-6')LacNAc (6). Combined with the enzymatic conversion of 6 to 7 (Renkonen et al., loc. cit.) and the available chemical synthesis of 4, our data improve the availability of 7 for full assessment of its anti-inflammatory properties.

=> log y

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